News release

World's first NEC SX-8 supercomputer starts production at Met Office

12 April 2005

The Met Office has begun to produce weather forecasts from its newest and fastest supercomputer at its Exeter headquarters. The NEC SX-8 system doubles the computing power of each of the two existing 120-processor NEC SX-6 systems, operational since April 2004. NEC was named as the supplier of Met Office supercomputers in June 2002, following an EU tender worth £27.5 million.

Photographs of NEC SX-8 supercomputer

The 128-processor NEC SX-8 will allow improvements to be made to weather forecasts and climate predictions. This will be achieved by inputting ever greater quantities of data into higher-resolution models with better representations of physical processes. Analysing uncertainty will also enable more confidence in forecasts, giving more useful advice to decision makers. The aim is to predict severe weather as early as possible and estimate the level of impact on affected areas.

The Met Office took delivery of the NEC supercomputer — which has a theoretical peak power of an industry-leading 16 billion calculations per second per processor — in January. Stringent acceptance tests involved running the machine at near-capacity for 28 days in a 56-day period. The NEC SX-8 achieved this in the first 28 days of the trial; the first time this has happened with a Met Office supercomputer. After passing the tests, the Met Office will take the system into full operational mode from midday on 12 April 2005.

The new supercomputer which, based on the speed of data movement, has the performance of around 8000 home PCs, will run the most demanding atmospheric models producing weather forecasts out to five days ahead, together with key integrations of the climate model. This will support the growing number of climate simulation and ocean-atmosphere models aimed at driving climate research in the UK and developing improvements to the operational forecast models. It will also contribute to international collaborations on climate research — notably the Intergovernmental Panel on Climate Change — and on weather forecasting.

"The new system is geared to provide what our customers want: more accuracy, more detail and a quantification of risk, with a particular emphasis on high impact weather," said Steve Noyes, Chief Technology Officer at the Met Office. "Being as accurate with our predictions as possible is very important to us and our customers. For this reason, the Met Office has acquired a computer that is among the most powerful available. This highlights our commitment to improving our services still further."

"From a computer standpoint weather prediction and climate research push the boundaries of supercomputing," said Makoto Tsukakoshi, Managing Director, NEC High Performance Computing Europe. "The new system uses our latest technology in microprocessor design combined with the fastest network and memory bandwidth achievable today. We are committed to a long term SX Series processor development and reliable leading edge system integration. The computer was delivered on time three years after we signed the contract, and only five months after we announced availability of the SX-8."

More about computers at the Met Office

Notes:

NEC Corporation

NEC Corporation (NASDAQ: NIPNY) (FTSE: 6701q.l) is one of the world's leading providers of internet, broadband network and enterprise business solutions dedicated to meeting the specialised needs of its diverse and global base of customers. Ranked as one of the world's top patent-producing companies, NEC delivers tailored solutions in the key fields of computer, networking and electron devices, by integrating its technical strengths in IT and networks, and by providing advanced semiconductor solutions through NEC Electronics Corporation. The NEC Group employs more than 140,000 people worldwide and had net sales of 4,906 billion yen (approx. $47 billion) in the fiscal year ended March 2004. For additional information, please visit the NEC home page at: www.nec.com.

NEC has distributed high performance computing systems in Europe since 1987 and provides wide-ranging support services and system integration. NEC's product portfolio includes SX series supercomputers, TX series high performance servers and NEC's trusted Linux clusters, which are mainly used for scientific and technical computing tasks in industry and research. NEC High Performance Computing Europe (HPCE) was founded in February 2003, formerly known as NEC European Supercomputer Systems, established in 1989. The European headquarter is in Düsseldorf, with branch offices located in Paris, London, Amsterdam, Lugano and Milan. NEC's competence centre for Linux technology and third-party application tuning and support has its offices in Stuttgart. For additional information, please visit: www.hpce.nec.com.

For further information:
Met Office Press Office +44 (0)1392 886655
E-mail: pressoffice@metoffice.gov.uk

Met Office Customer Centre 0870 900 0100
If you're outside the UK +44 (0)1392 885680

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